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REMARKS

Applicants appreciate the continued thorough examination of the present application that is reflected in the final Official Action of July 27, 2005. In view of the final Official Action, Applicants now also appreciate that Claim 1 may have been vague about the relative positions of the first and second portions of the metal layer and, thus, may inadvertently have applied to U.S. Patent 6,372,598 to Kang et al. Claim 1, therefore, has been amended to clarify the relative positions of the first and second portions, to make explicit what was already implicit in the claims. This Amendment raises no new issues, because it merely positively recites what was already implicit in the claims. Accordingly, Applicants respectfully request allowance of amended Claim 1.

As to remaining independent Claim 13, Applicants are still unable to find in Kang et al. a lower electrode that comprises a metal layer on the substrate and a metal oxide layer on the metal layer opposite the substrate, wherein the hemispherical grain lumps protrude from the metal oxide layer opposite the metal layer. Accordingly, Applicants respectfully request help from the Examiner to identify the passage/figure of Kang et al. that discloses these claim recitations. Alternatively, in the absence of any such disclosure in Kang et al., Applicants respectfully request withdrawal of the outstanding rejection and allowance of Claim 13.

The patentability of Claims 1 and 16 will now be described in detail.

Claim 1 Is Patentable Over Kang et al.

Claim 1 was rejected as being anticipated by Kang et al. Claim 1 has been amended to recite, in part:

wherein the metal layer comprises a first portion and a second portion on the first portion opposite the integrated circuit substrate, and wherein the first portion comprises Pt, and the second portion comprises at least one of Ru, Rh, Os and Pd. (Emphasis added.)

The final Official Action contends that the first and second portions correspond to elements 608 and 606 of Kang et al. However, as noted by the final Official Action, in Kang et al., portion 608 is comprised of Pt and portion 606 is comprised of Ru, Rh, Os or Pd. However, in Kang et al., the positions of the portions 606 and 608 are reversed from that claimed in Claim 1. Specifically, Claim 1 recites that the second portion, which comprises at least one of Ru, Rh, Os and Pd, is on the first portion, which comprises Pt. Yet in Kang et al., as shown, for example, in Figures 6A, 6B or 6C, the portion 608 is on the portion 606, rather than the portion 606 being on the portion 608.

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Applicants have now realized, however, that their broad definition of "on" (Specification Page 6, line 32-Page 7, line 1) might allow an interpretation of Claim 1 as stated by the final Official Action. In order to remove any doubt, Claim 1 has now been amended to recite that the second portion is on the first portion opposite the integrated circuit substrate. Thus, the first portion, which comprises Pt, is closer to the integrated circuit substrate than the second portion, which comprises at least one of Ru, Rh, Os and Pd. In contrast, in Kang et al., the portion 608 that is formed of Pt, is further away from the integrated circuit substrate than the portion 606 that is formed of Ru. Having removed any ambiguity, Claim 1 now recites the opposite of that which is taught by Kang et al. Accordingly, Claim 1 is patentable over Kang et al. Claim 2 is patentable at least as depending from patentable Claim 1.

Claim 13 Is Patentable Over Kang et al.

The last recitation of Claim 13 recites:

wherein the lower electrode comprises a metal layer on the substrate and a metal oxide layer on the metal layer opposite the substrate, and the hemispherical grain lumps protrude from the metal oxide layer opposite the metal layer.

The last paragraph of Page 2 of the Detailed Action does not provide any citation as to where Kang et al. describes that "the lower electrode comprises a metal layer on the substrate and a metal oxide layer on the metal layer opposite the substrate", or that "the hemispherical grain lumps protrude from the metal oxide layer opposite the metal layer", as recited in Claim 13.

In particular, there is no mention at all of a "metal oxide layer" in this paragraph. Moreover, the Response to Arguments section of the final Official Action, at the top of Page 3, also does not contain any discussion of the metal oxide layer. Stated differently, the final Official Action appears to deal with Claim 1, but does not appear to deal specifically with Claim 13.

Applicants have also studied Kang et al. to attempt to find any description of the claim recitations. For example, Column 5, lines 1-10 contains a laundry list of materials including "a conductive platinum-family oxide, or a mixture of two or more of the above materials", but does not describe the two layers as recited in the above-quoted portion of Claim 13 in the relationship that is recited in the claim. This passage also lists a number of other oxides of the conductive platinum-family oxide, but, again, does not describe a metal

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layer and a metal oxide layer on the metal layer opposite the substrate. Column 11, lines 12-16 similarly recites:

The conductive layer pattern 406 can be formed of a refractory metal, a refractory metal nitride, a refractory carbide, a metal silicide, conductive Perovskite, a platinum-family metal, a conductive platinum-family oxide, or a mixture of two or more of the above materials, instead of the polysilicon doped with impurities.

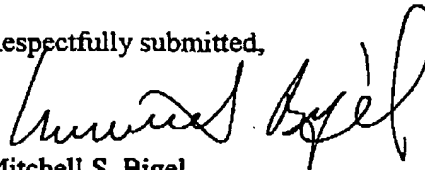
Thus, mixtures are contemplated, but not the first and second layers, as recited in Claim 13.

Accordingly, the above-quoted claim recitations of Claim 13 do not appear to be described or suggested in Kang et al., so that Claim 13, and Claims 14 and 19 that depend therefrom, appear to be in condition for allowance. If the Examiner maintains the rejection, the Examiner is respectfully asked to specifically deal with the above-quoted recitations of Claim 13, relative to Kang et al., so that Applicants have better guidance as to the Examiner's rationale.

Conclusion

Applicants again appreciate the continued thorough examination. Applicants have now amended Claim 1 to explicitly recite what was already implicit, and thereby claim the opposite from that which is disclosed in Kang et al. Moreover, the recitations of Claim 13 simply do not appear to be described in Kang et al. In view of the above, Applicants respectfully request withdrawal of the outstanding rejection and allowance of the present application.

Respectfully submitted,



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